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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,375	10/28/2003	Vladislav Bezrukov	13913-100001 / 2003P00317	5324
32864 7590 02/07/2007 FISH & RICHARDSON, P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER NGUYEN, CHAU T	
			ART UNIT	PAPER NUMBER
			2176	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/695,375

Applicant(s)

BEZRUKOV ET AL.

Examiner

Chau Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 and 38-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 and 38-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/15/2006 has been entered. Claims 1-35 and 38-44 are presented for examination. Claims 36-37 are cancelled.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 24-29 and 43 are rejected under 35 U.S.C. 101 because "a computer program product, tangibly embodied in an information carrier" is not limited to a tangible embodiment since the specification described, "a computer program tangibly embodied in an information carrier, e.g., in a machine-readable device or in a **propagated signal**" (page 9, lines 24-29 of Specification). Therefore, claims 24-29 and 43 are non-statutory as not being tangible.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-35 and 38-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azami, US Patent Application Publication No. US 2004/0064481 A1, and further in view of Lindblad et al. (Lindblad), US Patent Application Publication No. US 2004/0103105.

6. As to independent claims 1, 24 and 30, Azami discloses a method of maintaining extensible markup language (XML) documents comprising:

splitting an XML document into fragments (Abstract, and page 1, paragraph [0014] and page 4, paragraph [0062]: original structured data such as XML data is divided into a plurality of fragments);

binding each of the fragments to an object in a content management system (page 5, paragraph [0067]: an ID (object) uniquely attached to each fragment;] page 6, paragraph [0085]: metadata stream is separated into fragment data and fragment configuration information, and the fragment configuration information is stored in a metadata concatenation unit (content management system)); and

providing a respective reference between the XML document and each of the fragments (pages 4-5, paragraphs [0062] and [0068]: reference information specifying the fragment data).

Azami discloses dividing XML document into a plurality of fragments, and at the same time, for each fragment data, fragment configuration information (rule) is created which includes reference information specifying the fragment data (page 4, paragraph [0062]. However, Azami does not explicitly disclose splitting an XML document into fragments according to a plurality of rules stored in a configuration file.

Lindblad discloses parser 1316 parses a structured data XML into tokens according to token rules stored in the parameter storage, the parser also includes a subtree finder that allocates nodes identified in the tokenized document to subtrees according to subtree rules stored in parameter storage (page 8, paragraphs [0084]-[0085]).

Since Lindblad discloses parsing the structured data XML into a plurality of related nodes, which is similar to dividing structured data XML into a plurality of fragment data of Azami, thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lindblad and Azami to include splitting an XML document into fragments according to a plurality of rules stored in a configuration file in order to provide a more efficient way of storing and managing XML document data to facilitate accessing and/or updating information.

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7. As to dependent claims 2, 25 and 31, Azami discloses storing content associated with a fragment in the content management system (page 6, paragraph [0085]: metadata stream is separated into fragment data and fragment configuration information, and the fragment configuration information is stored in a metadata concatenation unit (content management system)).

8. As to dependent claims 3, 26, 32, and 38, Azami discloses associating the content with a particular object in the content management system (page 5, paragraphs [0067]-[0068] and page 6, paragraphs [0083]-[0086]: an ID (object) uniquely attached to each fragment).

9. As to dependent claims 4, 27, 33, and 39, Azami discloses replacing the content associated with each fragment with a link to the object in the content management system (pages 7-8, paragraphs [0101] and page 10, paragraph [0136]: instead of the ID reference in fragment configuration information, the Uniform Resource Identifier (link) is included in the reference information to specify the fragment data using the URI).

10. As to dependent claims 5, 28, 34, and 40, Azami discloses associating multiple fragments with a particular object in the content management system (page 5, paragraphs [0067]-[0068] and page 6, paragraphs [0083]-[0086]: an ID (object) uniquely attached to each fragment).

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11. As to dependent claim 6, Azami discloses detecting an outgoing reference to an object attribute (Fig. 13 and page 7, paragraph [0093]: the reference information existing at the position of a node include the element name "b").

12. As to dependent claim 7, Azami discloses ensuring the reference is unique (page 5, paragraph [0067]: the reference information is composed of an ID reference which specifies fragment data using an ID attached to the fragment, and the ID uniquely identifies fragment data).

13. As to dependent claim 8, Azami discloses setting the rules according to an application (pages 4-5, paragraph [0062]: fragment configuration describes information on the contents of fragment data so that a user or an application can process the fragment data based on that information).

14. As to dependent claim 9, Azami discloses wherein the rules include configuration rules (page 5, paragraphs [0067]-[0074]), the method further comprising:

analyzing content of the XML document using the configuration rules (pages 4-5, paragraph [0062]: fragment configuration describes information on the contents of fragment data so that a user or an application can process the fragment data based on that information).

15. As to dependent claim 10, Azami discloses wherein the rules include sub-rules (page 5, paragraphs [0068]-[0074]: fragment configuration information (rule) includes position information and reference information).

16. As to dependent claim 11, Azami discloses wherein the rules include encoding rules (Figs. 6-9 and page 5, paragraphs [0069]-[0074]: position information in the fragment configuration information includes "Xpath" which specifies a specific node in the structured data using XML path language, and "position" takes one of two values as its value, "prevSibling" or "lastChild").

17. As to dependent claim 12, Azami discloses wherein the configuration rules include a fragment rule that removes a fragment from the XML document and replaces the fragment with a reference (page 9, paragraph [0123]: the "replace" command, "delete" command, or "reset" command may be used for the fragment update command to dynamically update the structured metadata tree).

18. As to dependent claim 13, Azami discloses wherein the configuration rules include an unparsed object rule that extracts a string associated with an unparsed object and replaces the string with a reference (page 5, paragraph [0065], pages 6-7, paragraph [0090] and page 9, paragraph [0123]: the "replace" command, "delete" command, or "reset" command may be used for the fragment update command to dynamically update the structured metadata tree).

19. As to dependent claim 14, Azami discloses wherein the configuration rules include a hyperlink rule that replaces a link to another object attribute with a reference (pages 7-8, paragraphs [0101] and page 10, paragraph [0136]: instead of the ID reference in fragment configuration information, the Uniform Resource Identifier (link) is included in the reference information to specify the fragment data using the URI).

20. As to dependent claim 15, Azami discloses wherein the sub-rules include a pattern rule that extracts textual content from a fragment (page 5, paragraph [0065] and pages 6-7, paragraph [0090]: the position information and the reference information are extracted from the fragment configuration information).

21. As to dependent claim 16, Azami discloses wherein the sub-rules include an attribute rule that assigns each object with an attribute type (page 5, paragraph [0068]: reference information (sub-rule) contains element name and element type).

22. As to dependent claim 17, Azami discloses wherein the attribute type includes logical object (LOIO) or physical object (PHIO) (page 7, paragraphs [0093], [0096]: the reference information existing at the position of a node includes the element name "b" (logical object)).

23. As to dependent claim 18, Azami discloses wherein the sub-rules include a class rule that provides a class name to an object (page 5, paragraph [0068]: the reference information is composed of an ID reference, element name, and element type).

24. As to dependent claim 19, Azami discloses wherein encoding rules include internal entity encoding rules (Figs. 6-9 and page 5, paragraphs [0069]-[0074]: position information in the fragment configuration information includes "Xpath" which specifies a specific node in the structured data using XML path language, and "position" takes one of two values as its value, "prevSibling" or "lastChild").

25. As to dependent claim 20, Azami discloses wherein encoding rules include external name encoding rules (Figs. 6-9 and page 5, paragraphs [0069]-[0074]: position information in the fragment configuration information includes "Xpath" which specifies a specific node in the structured data using XML path language, and "position" takes one of two values as its value, "prevSibling" or "lastChild").

26. As to dependent claim 21, Azami discloses wherein encoding rules include unparsed object encoding rules (page 5, paragraph [0065], pages 6-7, paragraph [0090] and page 9, paragraph [0123]: the "replace" command, "delete" command, or "reset" command may be used for the fragment update command to dynamically update the structured metadata tree).

27. As to dependent claim 22, Azami discloses wherein encoding rules include hyperlink encoding rules (pages 7-8, paragraphs [0101] and page 10, paragraph [0136]: instead of the ID reference in fragment configuration information, the Uniform Resource Identifier (link) is included in the reference information to specify the fragment data using the URI).

28. As to dependent claims 23, 29, 35, and 41, Azami discloses wherein the fragment includes a sub-fragment (page 11, paragraph [0148]: generating fragment data to subdivide it into pieces of smaller fragment data),

binding the sub-fragment to an object in a content management system (page 5, paragraph [0067]: an ID (object) uniquely attached to each fragment;] page 6, paragraph [0085]: metadata stream is separated into fragment data and fragment configuration information, and the fragment configuration information is stored in a metadata concatenation unit (content management system)); and

providing a reference between the fragment and the sub-fragment (pages 4-5, paragraphs [0062] and [0068]: reference information specifying the fragment data).

29. As to claims 42-44, Azami, however, does not explicitly disclose wherein the plurality of rules comprises rules classifying relations between the XML document, the fragments, and the objects, including a rule based on a relation between any two XML fragments that are both part of the XML document, a rule based on a relation between and XML object and an unparsed object that are both part of the XML document, and a

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rule based on a relation between an XML object that is part of the XML document and an object that is not part of the XML document.

Lindblad discloses parser 1316 parses a structured data XML into tokens according to token rules stored in the parameter storage, the parser also includes a subtree finder that allocates nodes identified in the tokenized document to subtrees according to subtree rules stored in parameter storage (page 8, paragraphs [0084]-[0085]), and the relationship between neighboring subtrees is maintained by providing a link node in each subtree that stores a reference to the neighboring subtree. Lindblad also discloses using the reference of the link node of one subtree to locate the other subtree (page 2, paragraphs [0017]-[0018]).

Since Lindblad discloses parsing the structured data XML into a plurality of related nodes, which is similar to dividing structured data XML into a plurality of fragment data of Azami, thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lindblad and Azami to include plurality of rules comprises rules classifying relations between the XML document, the fragments, and the objects, including a rule based on a relation between any two XML fragments that are both part of the XML document, a rule based on a relation between an XML object and an unparsed object that are both part of the XML document, and a rule based on a relation between an XML object that is part of the XML document and an object that is not part of the XML document. The motivation for doing so is provide a more efficient way of storing and managing XML document data to facilitate accessing and/or updating information.

Response to Arguments

30. Applicant's arguments and amendments filed on 11/15/2006 have been fully considered but they are not deemed fully persuasive. Applicant's arguments with respect to claims 1, 24, 30 and 38-44 have been considered but are moot in view of the new ground(s) of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., splitting an XML document into fragments according to a plurality of rules stored in a configuration file) to the claims which significantly affected the scope thereof.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau Nguyen whose telephone number is (571) 272-4092. The Examiner can normally be reached on Monday-Friday from 8:30 am to 5:30 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Heather Herndon, can be reached at (571) 272-4136.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. On July 15, 2005, the Central Facsimile (FAX) Number will change from 703-872-9306 to 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chau Nguyen
Patent Examiner
Art Unit 2176


Heather R. Herndon
Supervisory Patent Examiner
Technology Center 2100